What we know

Properties of Quadratics
- Direction of opening
- y-intercept
- Shape of Graph - Parabola

What we will be learning

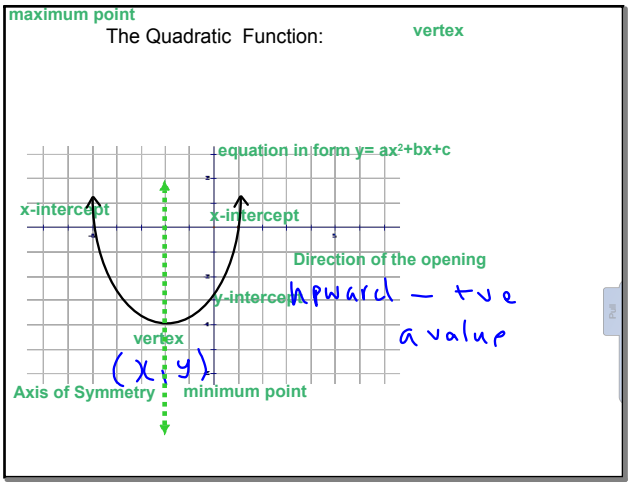
3.2 Properties of Graphs of Quadratic Relations & ACTIVITY

Work to help you remember

Do: Pg. 145 #9ac, 16

With Technology: Pg. 147 # 8, 12, 13, 14, 15

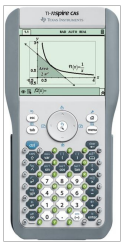
Feb 22-11:43 AM



Mar 22-2:04 PM

Standard Form: y= ax²+bx+c

Exploring Using Ti-Nspire

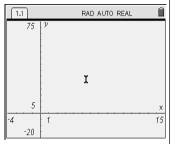


* Turn On Calculator
* Home 6 (New Document)
* Don't save previous document (Use Nav pad to move to "no" and then "click")
* Choose 2: Graphs and Geometry

Mar 22-3:12 PM

Station # 1: The Baseball Player

The height of a baseball after it is hit can be modeled by the function $y = -4.9x^2 + 35x + 1$
In this equation x is the time, in seconds, since the ball was hit and y is the height, in metres, of the ball above the ground.



a) Graph the equation on your TI-Nspire using the window settings shown on the grid provided.
Sketch your graph on the grid provided.

b) Trace your graph to find the following ordered pairs: y-intercept, x-intercept, vertex.
Record the ordered pairs on your sketch.
Draw a dotted line on your sketch to represent the axis of symmetry.

c) Is your vertex a maximum or minimum point? _____

d) What is the maximum height of the ball? _____

e) What is the height of the ball when it is hit? _____

f) How long does it take for the ball to hit the ground? _____

You will need to trace to find other ordered pairs to answer the following questions:

g) What is the height of the ball 2 seconds after it is hit? _____

h) Over what time interval is the height of the ball greater than 30 metres? _____

Mar 29-3:45 PM

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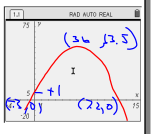

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The ball was hit from a height of 1m (y-int). It reaches a maximum height of 63.5m at 3.6sec (vertex). The ball hits the ground at 7.2 sec (x int).

Mar 29-3:45 PM

Group Activity

1. You will need to get into groups of 3
2. One of you is the materials manager and recorder the other 2 will be using the calculator
3. MM needs to get one piece of chart paper and a few markers.
   Then come to me to get the problem #
4. Your job is to write a short description of problem at the top of the page.
   Draw a graph with critical ordered pairs labelled.
   Show ordered pairs beside graph in a chart form.
5. Pick ONE ordered pair and write a sentence about it. You are **NOT** permitted to pick vertex!

Mar 29-3:53 PM

Problems for Group Activity

Pg. 134 Explore the Problem

Pg. 138 Learn about the Math Problem

Pg. 140 example 3

Pg. 143 example 4

Pg. 147 # 12,
13,
14,

Pg. 160 # 6

Pg. 185 # 9

Quadratic Relation 'E' Handout

Mar 29-4:02 PM

Oct 16-7:25 AM